

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-2, 4, 7, 9, 12-21 are presently active in this case, Claims 1, 4, 7, 9 and 12 amended, and Claims 3, 5-6, 8 and 10-11 canceled and Claims 14-21 added by way of the present amendment.

In the outstanding Office Action the specification and Claim 12 were objected to for informalities; Claims 1-4, 7-9 and 12-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication 2002/0045361; Claims 5-6 and 10-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheung et al. in view of U.S. Patent No. 4,847,162 to Haluska et al.; and Claims 1-13 were provisionally rejected for obviousness-type double patenting over Claims 1-14 of co-pending application U.S. 10/487,935.

Turning now to the merits, in order to expedite issuance of a patent in this case, Applicants have amended independent Claims 1 and 7 to clarify the patentable features of the present invention over the cited references. Specifically, Claim 1 has been amended to recite a method for processing an organosiloxane film, the method including loading a target substrate with a coating film formed thereon into a reaction chamber, the coating film including a polysiloxane base solution having an organic functional group, and performing a heat process on the target substrate within the reaction chamber to bake the coating film. The heat process includes a temperature setting step of setting an interior of the reaction chamber at a process temperature by heating, and a supplying step of supplying a baking gas into the reaction chamber set at the process temperature, while activating the baking gas by a gas activation section disposed outside the reaction chamber. Also recited is that the gas activation section activates the baking gas by bringing the baking gas into contact with a catalyst while supplying the baking gas with heat energy, that the baking gas is selected from

the group consisting of ammonia gas, dinitrogen oxide gas, nitrogen oxide gas, hydrogen gas, argon gas, and nitrogen gas, and that the catalyst is selected from the group consisting of tungsten and titanium oxide.

Thus, Applicants have amended Claim 1 to clarify that the method for processing an organosiloxane film includes:

“activating the baking gas by bringing the baking gas into contact with a catalyst while supplying the baking gas with heat energy, wherein:
the baking gas is selected from the group consisting of ammonia gas, dinitrogen oxide gas, nitrogen oxide gas, hydrogen gas, argon gas, and nitrogen gas, and
the catalyst is selected from the group consisting of tungsten and titanium oxide.”

Claim 7 has also been amended to include these features in system claim format. As discussed in Applicants’ specification, providing and activated baking gas such as the activated baking gas of Claims 1 and 7 promotes the baking reaction of the coating film, such that lower temperatures can be used.¹

In contrast, Fig. 2 of Cheung et al. illustrates a processing system having a reactor 10 and a gas mixing system 19 located external to the reactor 10 and configured to mix process gases prior to supplying the gases to the reactor 10. Paragraph [0052] of Cheung et al. explains that an optional microwave applicator 28 can be located on the input gas line for the oxidizing gas to provide additional energy that dissociates only the oxidizing gas. The Office Action takes the position that energy obtained by microwaves corresponds to energy obtained by plasma. As noted above, however, Claims 1 and 7 have now been amended to recite that “the gas activation section activating the baking gas by bringing the baking gas into contact with a catalyst while supplying the baking gas with heat energy.” That is, the activation energy is now specified as heat, which is not disclosed in Cheung et al.

¹ Applicants’ specification at p.18, lines 5-11.

In addition, the Office Action admits that Cheung et al. does not disclose use of a catalyst previously recited in Claims 5 and 6, but cites Haluska et al. as teaching the catalyst. However, Haluska et al. discloses only platinum or rhodium as a catalyst.² As noted above, amended Claims 1 and 7 limit the catalyst to one selected from the group consisting of tungsten and titanium oxide. This feature is not disclosed in Haluska et al., which provides an additional basis for patentability over the cited references.

For the reasons discussed above, Claims 1 and 7 patentably define over the cited references. Further as the remaining pending claims depend from one of the independent claims distinguished above, these dependent claims also patentably define over the cited references. Nevertheless, Applicants have added new Claims 16 and 20 to further define over the cited references. Specifically, Claims 16 and 20 recite a combination of the following three claim elements: “The baking gas is selected from the group consisting of ammonia gas and dinitrogen oxide gas”; “the catalyst is tungsten”; and “the gas activation section is configured to heat the baking gas to a temperature ranges from 700 to 1,000°C.” This combination makes it possible to provide a process with a low cost and a high efficiency. The cited references do not disclose this combination of elements. Thus, Claims 16-20 provide a further basis for patentability over the cited references.

With regard to the Double patenting rejection based on co-pending Application No. 10/487,935 (The ‘935 Application), Applicants traverse this rejection. The ‘935 Application, relates to an invention wherein a heat process is performed on a coating film of a polysiloxane family solution within an atmosphere including an inactive gas and a catalytic agent gas containing a mixture of ammonia and water. On the other hand, the presently claimed invention relates to a gas activation section disposed outside the reaction chamber and configured to activate the baking gas; this feature is simply not included in the claims of

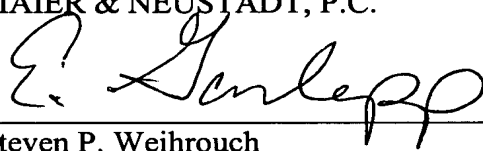
² Haluska et al. at column 4, lines 17-33.

the '935 application. Moreover, the amendments made herein to Claims 1 and 7 further clarify the difference between the present claims and the claims of the '935 application.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Steven P. Weihrouch
Attorney of Record
Registration No. 32,829

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 03/06)
SPW/EDG:sjh
I:\ATTY\EDG\279088US-AM.DOC

Edwin D. Garlepp
Registration No. 45,330